

EUS-Guided Shear Wave Elastography is comparable to Transient Elastography for assessment of Hepatic Fibrosis

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Study Objective

Endoscopic Ultrasound Shear Wave Elastography (EUS-SWE) and Transient Elastography (TE), ie Fibroscan, compared and correlated to histologic METAVIR scores for assessing liver fibrosis, using liver biopsy as the gold standard.

Results/Conclusion

- A total of 52 patients were enrolled in the study and underwent TE of the right liver lobe, EUS-SWE of both the right and left liver lobes, and liver biopsy of the right lobe.
- Using the METAVIR score, 42.3% were F0, 25% were F1, 21.1% were F2, 11.5% were F3 and 0 were F4, respectively.
- Right lobe SWE had a strong correlation with fibrosis stage $\rho = 0.571$ ($p < 0.0001$).
- Left lobe SWE had a moderate correlation $\rho = 0.368$ ($p < 0.0079$).
- TE also had a strong but slightly lower correlation with fibrosis stage $\rho = 0.552$ ($p < 0.0001$).
- Both SWE and TE had excellent discrimination of all stages of fibrosis based on empiric ROC curves.
- Both right and left lobe SWE had excellent discrimination of fibrosis stage: AUC = 0.8153 compared to AUC 0.802 ($p = 0.846$).

Discussion Points

- EUS-SWE can be used for measuring liver stiffness, thereby estimating hepatic fibrosis.
- EUS-SWE provides an assessment of hepatic fibrosis, which is comparable to TE (Fibroscan), using liver biopsy as the gold standard.
- EUS-SWE can easily be done during an EUS procedure and body habitus does not interfere with measurement.
- Real-time visualization with EUS-SWE allows for more accurate placement of transducer, thereby avoiding vessels, gas and bone.
- The right hepatic lobe appears better for EUS-SWE because of an almost 3.5 times higher variance between consecutive measurements of the left lobe compared to the right.

Study Limitations

- Future studies are necessary to confirm data and ultimately determine the optimal kPa cutoffs for each level of fibrosis.
- Small sample number of patients in a single center study.

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